Applications are invited from suitably qualified candidates for the following position:

Postdoctoral Researcher

I-Form, Advanced Manufacturing Research Centre

Fixed Term Contract – 2 years

As part of this role the researcher will be required to participate in the DCU Research Career Framework. This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path. The role may include teaching duties to assist with module delivery.

Background

Dublin City University (www.dcu.ie) is a research intensive, globally engaged, dynamic institution which has developed its own research specialists, established internationally recognized centres of excellence that have substantive collaborative links with leading universities and industrial partners. DCU is distinguished both by the quality and impact of its graduates and by its focus on the translation of knowledge into societal and economic benefit. Through its mission to transform lives and societies through education, research and innovation DCU acts as an agent of social, cultural and economic progress. DCU is Ireland’s fastest growing university and now hosts more than 17,000 students across its three academic campuses: DCU Glasnevin Campus, DCU St Patrick’s Campus and CU All hallows campus. DCU has a strong track record in attracting both Irish and European Union research funding under Horizon 2020 (and all previous Framework Programmes), Marie Curie Actions and Erasmus. We offer a dynamic and internationally-focused environment in which to advance your academic career.

I-FORM Advanced Manufacturing Research Centre: The I-FORM Advanced Manufacturing Research Centre has been established by Science Foundation Ireland (SFI) to deliver high-impact, innovative science and engineering research. I-FORM has particular focus on additive manufacturing (‘3D printing’) combined with advanced digital technologies applied in a precision manufacturing environment, see http://www.i-form.ie/

The Centre brings together a multi-disciplinary team of over 80 PhD and Post-Doc researchers in manufacturing engineering, materials and data science, in a cross-disciplinary and translational research environment. I-FORM operates in close collaboration with a global network of companies and collaborators.

The Project

I-Form Advanced Manufacturing Research Centre are seeking a Post-Doctoral Researcher to work on a project that will develop a detailed database for Additive Manufacturing (AM), mapping materials, process and product variables for metal Additive Manufacturing. For this, a range of materials will be used for characterisation, process monitoring and post process characterisation.
The Role
The primary focus of the Postdoctoral Research (PDR) will be performing research on an SFI I-Form targeted company project. In this project the research will develop a data base of the metal Additive Manufacturing process parameters and corresponding properties of the produced metal components. This includes the development of a detailed database mapping materials, process and product variables for metal Additive Manufacturing. For this, a range of materials will be used for characterisation, process monitoring and post process characterisation. Produce sample part properties that will be measured include microstructure, phase mapping, micro-hardness and nano-hardness, as well as some macro-scale properties.

Principle Duties and Responsibilities
Reporting to his/her Principal Investigator the Postdoctoral Researcher will perform research on an SFI I-Form targeted company project.

In this project the research will:
- Conduct a specified programme of research under the supervision and direction of the Principal Investigator
- Assist in identifying and developing future research and funding initiatives
- Engage in the dissemination of the results of the research in which he/she is engaged with the assistance of and under the supervision of the Principal Investigator
- Supervise and assist undergraduate students working in this area with their research
- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University
- Engage in teaching and teaching support as assigned by the Head of School under the direction of the Principal Investigator
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators
- Carry out administrative work associated with the programme of research as necessary

Qualifications, Skills and Experience Required:
Applicants should have a PhD in a discipline relevant to material characterisation and manufacturing process monitoring techniques. Applicants must have a broad knowledge of materials processing and characterisation technologies. It is preferable for the candidate to have experience with additive manufacturing. Experience with data analysis, data base development and imparting knowledge skills will be sought.

The team is looking for high performance, aspiring applicants with a desire to discover new knowledge and to drive forward advanced manufacturing technologies. Applicants are invited from suitably qualified graduates with the specific related backgrounds noted above.

Mandatory Training
Post holders will be required to undertake the following mandatory compliance training: GDPR, IP, and Health and Safety training. Other training may need to be undertaken when required.

Candidates will be assessed on the following competencies:

Discipline knowledge and Research skills – Demonstrates the ability to design and implement part of a programme of research (for example by using critical thinking and the application of relevant research methodologies).
Understanding the Research Environment – Demonstrates a thorough understanding of the research environment both nationally and internationally and the ability to contribute substantially to grant applications.

Communicating Research – Demonstrates the ability to communicate their research effectively to the research community and wider society (for example by publishing their research in high quality peer reviewed journals) and the ability to teach and tutor students.

Managing & Leadership skills - Successfully manages research projects including the management and supervision of postgraduates and/or junior research staff.